

CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

1. An apparatus for measuring intra cranial pressure, comprising:

an acoustic eye patch conformably adapted to an eyeball of a patient, said eye patch having sensors for measuring acoustic signals;

a sweep generator for applying acoustic signals across the skull of the patient, said signals sweeping a predetermined range;

an analyzer for determining from an output of the acoustic eye patch an intra cranial pressure.

2. The apparatus of claim 1, wherein said predetermined range is an ultrasonic resonance range and said analyzer determines a resonant frequency and a degree of damping of the acoustic signal at said resonant frequency, and wherein said degree of damping is correlated to a measure of intra cranial pressure.

3. The apparatus of claim 1, wherein the acoustic eye patch is applied to both eyeballs of the patient.

4. The apparatus of claim 2, wherein the predetermined resonance range is 20-175 kHz.

5. The apparatus of claim 1, wherein the acoustic eye patch sensor is a piezoelectric film.

6. The apparatus of claim 3, wherein the analyzer determines coherence between eyeballs of the patient.

7. The apparatus of claim 1, wherein said predetermined range includes frequencies less than 20 kHz and said analyzer detects retinal artery pulsations, and wherein pressure is applied to the eye until the retinal artery pulsations disappear, said applied pressure being a measure of intra cranial pressure.

8. A method for determining intra cranial pressure, comprising the steps of:

conformably adapting an acoustic eye patch to an eyeball of a patient; said eye patch having sensors for measuring acoustic signals;

applying acoustic signals across the skull of the patient, said signals sweeping a predetermined range;

determining from an output of the acoustic eye patch an intra cranial pressure.

9. The method of claim 8, wherein said predetermined range is an ultrasonic resonance range and said analyzer determines a resonant frequency and a degree of damping of the acoustic signal at said resonant frequency, and wherein said degree of damping is correlated to a measure of intra cranial pressure.

10. The method of claim 8, wherein the acoustic eye patch is applied to both eyeballs of the patient.

11. The method of claim 9, wherein the predetermined resonance range is 20-175 kHz.

12. The method of claim 8, wherein the acoustic eye patch sensor is a piezoelectric film.

13. The method of claim 10, wherein the analyzer determines coherence between eyeballs of the patient.

14. The method of claim 8, wherein said predetermined range includes frequencies less than 20 kHz and said analyzer detects retinal artery pulsations, and wherein pressure is applied to the eye until the retinal artery pulsations disappear, said applied pressure being a measure of intra cranial pressure.